

CLAIMS

What is claimed is:

1. An angiogenesis-inhibitory tripeptide of formula aa1-aa2-aa3, having a first amino acid (aa1), a second amino acid (aa2) and a third amino acid (aa3),  
5 wherein,  
(a) said first amino acid is selected from the group consisting of Ser, Thr, Ala, Phe, Tyr, Cys, Gly, Leu, Lys, Pro, Arg, Gln, Glu, Asp, Asn, His, Met, Ile, Trp, Val,  
10 diaminopropionic acid and *trans*-4-hydroxy-proline;  
(b) said second amino acid is selected from the group consisting of Asn, Ala, Gly, Asp, Glu, Gln diaminopropionic acid and *trans*-4-hydroxy-proline; and  
(c) said third amino acid is selected from the group consisting of Ser, Thr, Ala, Phe, Tyr, Cys, Gly, Leu, Lys, Pro, Arg,  
15 Gln, Glu, Asp, Asn, his, met, Ile, Trp, Val, diaminopropionic acid and *trans*-4-hydroxy-proline.
2. The angiogenesis-inhibitory tripeptide of Claim 1, wherein  
(a) said first amino acid is selected from the group consisting of Ser, Thr, Cys, and diaminopropionic acid;  
20 (b) said second amino acid is selected from the group consisting of Asn and Gln; and  
(c) said third amino acid is selected from the group consisting of Ser, Thr, Cys, and diaminopropionic acid.
3. The angiogenesis-inhibitory tripeptide of Claim 1, wherein,  
25 (a) said first amino acid is Ser;  
(b) said second amino acid is Asn or Gln;  
(c) said third amino acid is Ser.
4. The angiogenesis-inhibitory tripeptide of Claim 1, wherein the  
30 tripeptide is capped.
5. The angiogenesis-inhibitory tripeptide of Claim 1, wherein the first amino acid is an amino-terminal and the third amino acid is a carboxy-terminal, wherein,  
35 (a) the amino-terminal is capped with a compound selected from the group consisting of acetyl, benzoyl, alkylsulfonyl, arylsulfonyl, alkylaminoacyl, arylaminoacyl, formyl, peptide and polymer; and

- (b) the carboxy-terminal is capped with a compound selected from the group consisting of  $\text{NH}_2$ ,  $\text{OH}$ , and  $\text{NHR}$ , wherein R is selected from the group consisting of alkyl and aryl.
- 5        6. The angiogenesis-inhibitory tripeptide of Claim 4, wherein the amino-terminal is capped with an acetyl group and the carboxy-terminal is capped with an amide group.
7. An angiogenesis-inhibitory composition, comprising the angiogenesis inhibitory tripeptide of Claim 1.
- 10       8. A pharmaceutical composition useful as an angiogenesis inhibitor, the composition comprising an angiogenesis-inhibitory amount of the angiogenesis-inhibitory tripeptide of Claim 1.
9. A method of inhibiting angiogenesis in a tissue, the method comprising administering to the tissue an angiogenesis-inhibitory amount of the tripeptide of Claim 1.
- 15       10. A method of inhibiting angiogenesis in an animal, the method comprising administering to the animal an angiogenesis-inhibitory amount of the tripeptide of Claim 1.
11. A method of inhibiting angiogenesis in an individual, the method comprising administering to the individual an angiogenesis-inhibitory amount of the tripeptide of Claim 1.
- 20       12. The method of Claim 9, wherein said tissue is inflamed.
13. The method of Claim 9, wherein said tissue is selected from the group consisting of solid tumor, solid tumor metastases, retinal tissue and choroidal tissue.
- 25       14. The method of Claim 9, wherein the angiogenesis is associated with a condition selected from the group consisting of ocular neovascular diseases, choroidal neovascular diseases, retina neovascular diseases, neovascularization of the angle, Bartonellosis, chronic inflammation, osteoarthritis, rheumatoid arthritis, atherosclerosis phemphigoid, trachoma, or Osler-Webber-Rendu disease.
- 30       15. The method of Claim 9, wherein said tripeptide is administered via a pharmaceutically acceptable medium.
16. The method of Claim 9, wherein said tripeptide is administered via osmotic mini-pumps.
- 35       17. The method of Claim 9, wherein said tripeptide is administered via biodegradable polymers.

18. The method of Claim 9, wherein said tripeptide is administered by encoding a nucleic acid for the angiogenesis-inhibitory tripeptide of Claim 1.

5 19. The method of Claim 9, wherein said administering is carried out by incorporation into a vector, said vector being selected from the group consisting of retrovirus, adenovirus, ligand conjugated nucleic acids, isolated DNA, isolated RNA, liposomes, and polylysines.

20. The method of Claim 11, wherein said administering is selected from the group consisting of oral, topical, nasal, transdermal, 10 intraperitoneal, intracranial, intracerebral, vaginal, intrauterine, rectal, parenteral, and ophthalmic administration.

21. The method of Claim 11, wherein said tripeptide is administered in conjunction with a therapeutic compound, the therapeutic compound being selected from the group consisting of 15 chemotherapeutics, antibiotics, antivirals, anti-inflammatories, targeting compounds, cytokines, immunotoxins, anti-tumor antibodies, angiogenic inhibitors, anti-edema agents, radiosensitizers and combinations thereof.

22. The method of Claim 11, wherein said tripeptide is administered in conjunction with a therapeutic method, the therapeutic 20 method being selected from the group consisting of surgery, chemotherapy, radiation and laser therapy.